Start
Browse by Section/Division of Interest
View At a Glance
Author Index
CEU Approved Sessions

51-4 Potential Shift in Dryland Cropping Systems in Middle East and North African Countries.

See more from this Division: ASA Section: Agronomic Production Systems
See more from this Session: Symposium--Global Semiarid Cropping Systems Adaptation to Climate Variability

Monday, November 7, 2016: 9:35 AM
Phoenix Convention Center North, Room 124 B

Chandrashekhar Biradar[1], *Andrew Noble*[2], *William Schillinger*[3], *John Dixon*[4], *Khaled El-Shamaa*[2] *and Xiangming Xiao*[5],
(1)Amman, ICARDA - Intl Center for Agricultural Research in the Dry Areas, Amman, JORDAN
(2)International Center for Agricultural Research in Dry Areas (ICARDA), Amman, Jordan
(3)Crop and Soil Sciences, Washington State University, Lind, WA
(4)Australian Center for International Agricultural Research, Canberra, Australia
(5)Department of Microbiology and Plant Biology, University of Oklahoma, Norman, OK

Audio File Recorded Presentation

Abstract:

Agro-ecosystems are critical in the livelihoods of > 80% of rural communities in Middle East and North Africa. A shrinking natural resource base, increased land degradation and severe water scarcity impact food production systems in the region. There is shift in paradigm to address the complexity of dryland agro-ecosystems in order to cope with changing climates, socio-ecology and geopolitics. While population continues to grow at 2% annually, demand for food grains surpassed production resulting in an annual gap ranging from 52-85 million tons in basic staples. This results in a dependence on imports with associated risks. There are widespread yield gaps with actual yields are significantly lower than the expected potential. Further livestock are a major asset for most smallholder farmers in the region. The decadal land use dynamics indicate grazing landscapehave undergone the greatest change with a net loss ranging between 9 to 30%. This loss is attributed to several factors ranging from expansion of croplands to perverse policies. Over a 30 years, approximately 19% of the land use has changed. There are tradeoffs between productivity and input use efficiency for crops, and moving from high-water-use crops to water-saving-crops. All these make sustainable intensification and crop diversification increasingly more important in dryland farming. Technological innovation packages that include improved cultivars, agronomic practices, water management, early warning, precision farming etc. provide further incentives to invest in the future of dryland agriculture. Access to market and supporting policies to underpin incentives for individual and collective incentives are two further important issues. These practices show potential to mitigate risks and enhance system resilience. If supported by adequate policy reforms and investment, these initiatives can be replicated and extensively scaled-up for wider benefits in drylands under changing climate variability.

See more from this Division: ASA Section: Agronomic Production Systems
See more from this Session: Symposium--Global Semiarid Cropping Systems Adaptation to Climate Variability

<< Previous Abstract | Next Abstract >>